Applicant: Hsuan-Yin Langest, et al. Aucmey's Docket No.: 12938-003002

Serial No.: 10/025,947

Filed: December 26, 2001

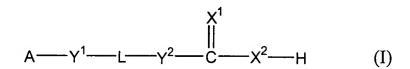
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Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A compound of formula (I):



wherein

A is a cyclic moiety selected from the group consisting of C₃₋₁₄ cycloalkyl, 3-14 membered heterocycloalkyl, C₄₋₁₄ cycloalkenyl, 3-14 membered heterocycloalkenyl, aryl, and heteroaryl; the cyclic moiety being optionally substituted with <u>1-3 substituents</u>, each of which is independently selected from the group consisting of alkyl, alkenyl, alkynyl, alkoxy, hydroxyl, hydroxylalkyl, halo, haloalkyl, amino, alkylcarbonyloxy, alkyloxycarbonyl, alkylcarbonyl, alkylsulfonylamino, aminosulfonyl, or and alkylsulfonyl;

each of X^1 and X^2 , independently, is O or S;

each of Y^1 and Y^2 , independently, is -CH₂-, -O-, -S-, -N(R^a)-, -N(R^a)-C(O)-O-, -O-C(O)-N(R^a)-, -N(R^a)-C(O)-N(R^b)-, -O-C(O)-O-, or a bond; each of R^a and R^b, independently, being hydrogen, alkyl, alkenyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl;

L is a straight C_{3-12} hydrocarbon chain optionally containing at least one double bond, at least one triple bond, or at least one double bond and one triple bond; said hydrocarbon chain being optionally substituted with C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-4} alkoxy, hydroxyl,

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halo, amino, nitro, cyano, C₃₋₅ cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl, C₁₋₄ alkylcarbonyloxy, C₁₋₄ alkylcarbonyl, C₁₋₄ alkylcarbonyl, or formyl; and further being optionally interrupted by -O-, -N(R^c)-, -N(R^c)-C(O)-O-, -O-C(O)-N(R^c)-, -N(R^c)-C(O)-N(R^d)-, or -O-C(O)-O-; each of R^c and R^d, independently, being hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl; provided that when L contains two or more double bonds, the double bonds are not adjacent to each other; that when L contains three double bonds, said hydrocarbon chain is further substituted with C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ alkoxy, hydroxyl, halo, amino, nitro, cyano, C₃₋₅ cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl, C₁₋₄ alkylcarbonyloxy, C₁₋₄ alkyloxycarbonyl, C₁₋₄ alkylcarbonyl, or formyl; and further provided that when L contains zero double bonds, one double bond, or two conjugated double bonds and A is substituted phenyl or unsubstituted aryl, Y¹ is not a bond or CH₂, and Y² is not a bond or CH₂; or a salt thereof.

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- 2. (Original) The compound of claim 1, wherein X^1 is O.
- 3. (Original) The compound of claim 1, wherein X^2 is O.
- 4. (Original) The compound of claim 1, where each of X^1 and X^2 is O.

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- (Original) The compound of claim 1, wherein each of Y¹ and Y², independently, is -CH₂, 5. -O-, $-N(R^a)$ -, or a bond.
- 6. (Canceled)
- (Original) The compound of claim 1, wherein L is an unsaturated C_{4-8} hydrocarbon chain 7. containing at least one double bond and no triple bond, said unsaturated hydrocarbon chain being optionally substituted with C_{1-2} alkyl, C_{1-2} alkoxy, hydroxyl, -NH₂, -NH(C_{1-2} alkyl), or $-N(C_{1-2} \text{ alkyl})_2$, or $-N(C_{1-2} \text{ alkyl})_2$.
- 8. (Original) The compound of claim 7, wherein the double bond is in trans configuration.
- 9-11. (Canceled)
- 12. (Original) The compound of claim 1, wherein A is phenyl, naphthyl, indanyl, or tetrahydronaphthyl.
- 13. (Currently Amended) The compound of claim 1, wherein A is phenyl optionally substituted with 1-3 substituents, each of which is independently selected from the group consisting of alkyl, alkenyl, hydroxyl, hydroxylalkyl, halo, haloalkyl, or and amino.

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14-15. (Canceled)

16. (Original) The compound of claim 13, wherein L is an unsaturated C_{4-8} hydrocarbon chain containing only double bonds in trans configuration, said unsaturated hydrocarbon chain being optionally substituted with C_{1-2} alkyl, C_{1-2} alkoxy, hydroxyl, -NH₂, -NH(C_{1-2} alkyl), or -N(C_{1-2} alkyl)₂.

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17. (Original) The compound of claim 16, wherein X^1 is O; X^2 is O; and each of Y^1 and Y^2 , independently, is -CH₂-, -O-, -N(\mathbb{R}^a)-, or a bond.

18-21. (Canceled)

22. (Currently Amended): A compound of formula (I):

$$A - Y^{1} - L - Y^{2} - C - X^{2} - H$$
 (I)

wherein

A is a cyclic moiety selected from the group consisting of aryl and heteroaryl; the cyclic moiety being optionally substituted with alkyl, alkenyl, alkynyl, alkovy, hydroxylalkyl, or amino;

each of X^1 and X^2 , independently, is O or S;

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each of Y^1 and Y^2 , independently, is $-CH_2$ -, -O-, -S-, $-N(R^a)$ -, $-N(R^a)$ -C(O)-O-, -O-C(O)- $N(R^a)$ -, $-N(R^a)$ -C(O)- $N(R^b)$ -, -O-C(O)-O-, or a bond; each of R^a and R^b , independently, being hydrogen, alkyl, hydroxylalkyl, or haloalkyl;

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L is a straight C₃₋₁₂ hydrocarbon chain optionally containing at least one double bond, at least one triple bond, or at least one double bond and one triple bond; said hydrocarbon chain being optionally substituted with C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ alkoxy, or amino, and further optionally interrupted by -O- or -N(R^c)-, where R^c is hydrogen, alkyl, hydroxylalkyl, or haloalkyl; provided that when L contains two or more double bonds, the double bonds are not adjacent to each other; that when L contains three double bonds, said hydrocarbon chain is substituted with C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ alkoxy, or amino; and further provided that when L contains zero double bonds, one double bond, or two conjugated double bonds and A is C₁₋₄ alkyl phenyl, C₁₋₄ alkoxy phenyl, or unsubstituted aryl, Y¹ is not a bond or CH₂, and Y² is not a bond or CH₂;

or a salt thereof.

23-24. (Canceled)

25. (Original) The compound of claim 22, wherein L is an unsaturated $C_{4.8}$ hydrocarbon chain containing only double bonds in trans configuration, said unsaturated hydrocarbon chain being optionally substituted with C_{1-2} alkyl, C_{1-2} alkoxy, hydroxyl, -NH₂, -NH(C_{1-2} alkyl), or -N(C_{1-2} alkyl)₂.

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26. (Original) The compound of claim 25, where in X^1 is O; X^2 is O; and each of Y^1 and Y^2 , independently, is -CH₂-, -O-, N(R^a)-, or a bond.

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27-79. (Canceled)

80. (Currently Amended) A pharmaceutical composition, comprising an effective amount of a compound of formula (I):

$$A - Y^{1} - L - Y^{2} - C - X^{2} - H$$
 (I)

wherein

A is a cyclic moiety selected from the group consisting of C₃₋₁₄ cycloalkyl, 3-14 membered heterocycloalkyl, C₄₋₁₄ cycloalkenyl, 3-14 membered heterocycloalkenyl, aryl, and heteroaryl; the cyclic moiety being optionally substituted with 1-3 substituents, each of which is independently selected from the group consisting of alkyl, alkenyl, alkynyl, alkoxy, hydroxyl, hydroxylalkyl, halo, haloalkyl, amino, alkylcarbonyloxy, alkyloxycarbonyl, alkylcarbonyl, alkylsulfonylamino, aminosulfonyl, or and alkylsulfonyl;

each of X^1 and X^2 , independently, is O or S;

each of Y^1 and Y^2 , independently, is $-CH_2$ -, -O-, -S-, $-N(R^a)$ -, $-N(R^a)$ --C(O)-O-, -O--C(O)- $-N(R^a)$ -, $-N(R^a)$ -, $-N(R^a)$ -, -O--C(O)-O-, or a bond; each of R^a and R^b , independently, being hydrogen, alkyl, alkenyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl;

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L is a straight C₃₋₁₂ hydrocarbon chain containing at least one double bond, or at least one double bond and one triple bond; said hydrocarbon chain being optionally substituted with C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ alkoxy, hydroxyl, halo, amino, nitro, cyano, C₃₋₅ cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl, C₁₋₄ alkylcarbonyloxy, C₁₋₄ alkyloxycarbonyl, C₁₋₄ alkylcarbonyl, or formyl; and further being optionally interrupted by -O-, -N(R^c)-, -N(R^c)-C(O)-O-, -O-C(O)-N(R^c)-, -N(R^c)-C(O)-N(R^d)-, or -O-C(O)-O-; each of R^c and R^d, independently, being hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl; or a salt thereof; and

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- 81. (Currently Amended) The eompound pharmaceutical composition of claim 80, wherein X^1 is O.
- 82. (Currently Amended) The eompound pharmaceutical composition of claim 80, wherein X^2 is O.
- 83. (Currently Amended) The eompound pharmaceutical composition of claim 80, where each of X^1 and X^2 is O.

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84. (Currently Amended) The compound pharmaceutical composition of claim 80, wherein each of Y^1 and Y^2 , independently, is $-CH_2$, $-O_2$, $-N(R^a)_2$, or a bond.

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- 85. (Currently Amended) The eompound pharmaceutical composition of claim 80, wherein L is an unsaturated C_{4-8} hydrocarbon chain containing at least one double bond and no triple bond, said unsaturated hydrocarbon chain being optionally substituted with C_{1-2} alkyl, C_{1-2} alkoxy, hydroxyl, -NH₂, -NH(C_{1-2} alkyl), or -N(C_{1-2} alkyl)₂, or -N(C_{1-2} alkyl)₂.
- 86. (Currently Amended) The **compound pharmaceutical composition** of claim 85, wherein the double bond is in trans configuration.
- 87. (Currently Amended) The eompound pharmaceutical composition of claim 1 80, wherein A is phenyl, naphthyl, indanyl, or tetrahydronaphthyl.
- 88. (Currently Amended) The compound pharmaceutical composition of claim 80, wherein A is phenyl optionally substituted with 1-3 substituents, each of which is indepenently selected from the group consisting of alkyl, alkenyl, hydroxyl, hydroxylalkyl, halo, haloalkyl, or and amino.
- 89. (Currently Amended) The eompound pharmaceutical composition of claim 80, wherein L is an unsaturated C₄₋₈ hydrocarbon chain containing only double bonds in trans

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configuration, said unsaturated hydrocarbon chain being optionally substituted with C_{1-2} alkyl, C_{1-2} alkoxy, hydroxyl, -NH₂, -NH(C_{1-2} alkyl), or -N(C_{1-2} alkyl)₂.

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- 90. (Currently Amended) The eompound pharmaceutical composition of claim 89, wherein X^1 is O; X^2 is O; and each of Y^1 and Y^2 , independently, is -CH₂-, -O-, -N(\mathbb{R}^a)-, or a bond.
- 91. (Previously Added) A compound of formula (I):

wherein

A is a cyclic moiety selected from the group consisting of C₃₋₁₄ cycloalkyl, 3-14 membered heterocycloalkyl, C₄₋₁₄ cycloalkenyl, 3-14 membered heterocycloalkenyl, aryl, and heteroaryl; the cyclic moiety being optionally substituted with alkyl, alkenyl, alkynyl, alkoxy, hydroxyl, hydroxylalkyl, halo, haloalkyl, amino, alkylcarbonyloxy, alkyloxycarbonyl, alkylcarbonyl, alkylsulfonylamino, aminosulfonyl, or alkylsulfonyl;

each of X¹ and X², independently, is O or S;

 Y^1 is -CH₂-, -S-, -N(R^a)-, -N(R^a)-C(O)-O-, -O-C(O)-N(R^a)-, -N(R^a)-C(O)-N(R^b)-, -O-C(O)-O-, or a bond; each of R^a and R^b, independently, being hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl;

$$Y^2$$
 is -CH₂-, -O-, -S-, -N(R^a)-, -N(R^a)-C(O)-O-, -O-C(O)-N(R^a)-, -N(R^a)-C(O)-N(R^b)-,

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-O-C(O)-O-, or a bond;

L is a straight C_{3-6} hydrocarbon chain containing at least one double bond, at least one triple bond, or at least one double bond and one triple bond; said hydrocarbon chain being substituted with C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-4} alkoxy, halo, amino, nitro, cyano, C_{3-5} cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl, C_{1-4} alkylcarbonyloxy, C_{1-4} alkyloxycarbonyl, C_{1-4} alkylcarbonyl, or formyl; and further being optionally interrupted by -O-, -N(R^c)--, -N(R^c)--C(O)-O-, -O-C(O)-N(R^c)-, -N(R^c)-C(O)-N(R^d)-, or -O-C(O)-O-; each of R^c and R^d , independently, being hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl;

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or a salt thereof.

- 92. (Previously Added) The compound of claim 91, wherein X^1 is O.
- 93. (Previously Added) The compound of claim 91, wherein X^2 is O.
- 94. (Previously Added) The compound of claim 91, wherein each of X^1 and X^2 is O.
- 95. (Previously Added) The compound of claim 91, wherein each of Y^1 and Y^2 , independently, is -CH₂-, -N(\mathbb{R}^a)-, or a bond.

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96. (Previously Added) The compound of claim 91, wherein L is an unsaturated C₄₋₆ hydrocarbon chain containing at least one double bond and no triple bond, said unsaturated hydrocarbon chain being substituted with C₁₋₂ alkyl, C₁₋₂ alkoxy, hydroxyl, -NH₂, -NH(C₁₋₂ alkyl), -N(C₁₋₂ alkyl)₂, -N(C₁₋₂ alkyl)₂, halo, or monocyclic aryl.

- 97. (Previously Added) The compound of claim 96, wherein said double bond is in trans configuration.
- 98. (Currently Amended) The compound of claim 91, wherein A is phenyl, naphthyl, indanyl, or tetrahydronapthyl tetrahydronaphthyl.
- 99. (Previously Added) The compound of claim 91, wherein A is phenyl optionally substituted with alkyl, alkenyl, hydroxyl, hydroxylalkyl, halo, haloalkyl, or amino.
- 100. (Previously Added) The compound of claim 91, wherein L is an unsaturated C_{4-6} hydrocarbon chain containing double bonds only in trans configuration, said unsaturated hydrocarbon chain being substituted with C_{1-2} alkyl, C_{1-2} alkoxy, hydroxyl, -NH₂, -NH(C_{1-2} alkyl), -N(C_{1-2} alkyl)₂, halo, or monocyclic aryl.
- 101. (Previously Added) The compound of claim 100, wherein X^1 is O; X^2 is O; and each of Y^1 and Y^2 , independently, is -CH₂-, -N(R^a)-, or a bond.

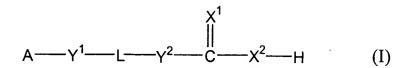
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102. (New) A compound of formula (I):



wherein

A is a cyclic moiety selected from the group consisting of C_{3-14} cycloalkyl, 3-14 membered heterocycloalkyl, C_{4-14} cycloalkenyl, 3-14 membered heterocycloalkenyl, aryl, and heteroaryl; the cyclic moiety being optionally substituted with alkyl, alkenyl, alkynyl, alkoxy, hydroxyl, hydroxylalkyl, halo, haloalkyl, amino, alkylcarbonyloxy, alkyloxycarbonyl, alkylcarbonyl, alkylsulfonylamino, aminosulfonyl, or alkylsulfonyl;

each of X^1 and X^2 , independently, is O or S;

each of Y^1 and Y^2 , independently, is -CH₂-, -O-, -S-, -N(R^a)-, -N(R^a)-C(O)-O-, -O-C(O)-N(R^a)-, -N(R^a)-C(O)-N(R^b)-, -O-C(O)-O-, or a bond; each of R^a and R^b, independently, being hydrogen, alkyl, alkenyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl;

L is a straight C₃₋₇ hydrocarbon chain optionally containing at least one double bond, at least one triple bond, or at least one double bond and one triple bond; said hydrocarbon chain being optionally substituted with C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ alkoxy, hydroxyl, halo, amino, nitro, cyano, C₃₋₅ cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl, C₁₋₄ alkylcarbonyloxy, C₁₋₄ alkyloxycarbonyl, C₁₋₄ alkylcarbonyl, or formyl; and further being optionally interrupted by -O-, -N(R^c)-, -N(R^c)-C(O)-O-,

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-O-C(O)-N(R^c)-, -N(R^c)-C(O)-N(R^d)-, or -O-C(O)-O-; each of R^c and R^d, independently, being hydrogen, alkyl, alkenyl, alkynyl, alkoxy, hydroxylalkyl, hydroxyl, or haloalkyl; provided that when L contains two or more double bonds, the double bonds are not adjacent to each other; that when L contains three double bonds, said hydrocarbon chain is further substituted with C₁₋₄ alkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₁₋₄ alkoxy, hydroxyl, halo, amino, nitro, cyano, C₃₋₅ cycloalkyl, 3-5 membered heterocycloalkyl, monocyclic aryl, 5-6 membered heteroaryl, C₁₋₄ alkylcarbonyloxy, C₁₋₄ alkyloxycarbonyl, C₁₋₄ alkylcarbonyl, or formyl; and further provided that when L contains zero double bonds, one double bond, or two conjugated double bonds and A is substituted phenyl or unsubstituted aryl, Y1 is not a bond or CH2, and Y2 is not a bond or CH2; or a salt thereof.

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